No. 10

Passed March 22d 1824
W. L. H
Dear

By
James T. Hay
of
Georgia.

The c
as it
seem
Wiff
expe
but
ceden
baffl
ced p

The
mod
tribe
Ne
the
by o
not
are co
ted;

The object of this essay, is to speak of the bilious fever, as it occurred in the county in which I reside, during the summer and autumnal months of the year 1822.
With this disease, our inhabitants have been acquainted from experience, ever since the first settlement of the country, but during the last year, it prevailed to an extent unprecedented in its history, and in a violence of form, which often baffled the skill of our most enlightened, and experienced practitioners.

Causes.

Marsh miasmata, were conceded to be the general remote causes of this complaint. That they may contribute to generate this, in common with Intermittent Fever, we can entertain no doubt, when we take into view the local situation of those places in which it most frequently occurred, and the fact, that both forms of fever, were not unfrequently observed in the same habitation. That they are concerned in its production, is I believe universally admitted; I conceive it therefore unnecessary to adduce facts,

or co
nat
stoc
wou
At he
dep
are
but
dec
thing
inve
Cour
I am
line
and
cake
rain
Mese
the

or collect arguments, in support of the position. ... Their precise nature and mode of action seeming not to be well understood, by any who have laboured in their investigation, it would be superfluous in me, to attempt an explanation. It has been asserted that their action is in a great degree dependant on the condition of the surface, from which they are eliminated, - that the effluvia emitted from ground but moderately wet, are those which contribute to the production of this disease. I am not prepared to state any thing which can greatly affect this assumption, either to invalidate, or maintain it. Having kept no regular account of the state of the weather during the last year, I am unable to give any thing more than a rude outline. In the months of Spring, we had long continued and heavy rains, during the prevalence of which, no cases of this fever, do I recollect as occurring. These rains, were succeeded in the month of June, by the commencement of a long drought, upon the accession of which the fever broke out, and widely extended its ravages.

While the low grounds were entirely covered with water, few cases were to be seen in their immediate vicinage, excepting the milder forms of fever. This seems calculated to lend some support to the doctrine, that effluvia thus emitted, are of a less concentrated form, and by reason of this, less virulent in their action.

Heat, seemed to be a prolific source of this fever. We might infer this from the circumstance of the disease occurring in situations remote from the influence of miasmata, and when indeed all sources of exhalation were dried up;- as well as from the fact that the disease prevails in hot weather, and in warm climates in an aggravated form. That a continuance of intense heat, acts in producing fevers of a malignant character, is I believe, pretty generally admitted. In the case before us, the heat was excessive, and of long duration;- we were seldom blessed with a

refreshing shower,- and when we were visited with a rain, its effects were evanescent, being confined to a mere temporary reduction of temperature.
I might here mention many of the common causes of fever as noticed by writers,- as whatever would tend to debilitate the body, or depress the mind &c.-

The exciting causes were various, and in some cases could not distinctly be traced, the remote here probably acting as exciting. Intemperance in eating, particularly of fruit, crowding the stomach with unripe fruit, or eating to excess that which was mature and not unwholesome, seemed sometimes to excite the fever.- Intemperance in drinking, would have the same effect. By a debauch, the stomach and system, are left in a condition favourable for the production of disease, or this is immediately brought into action.--- Heat, deserves a place here also; accelerating the establishment of the disease, by derang-

ing the circulation, and the functions of the internal organs. Cold, especially its sudden application when the temperature was considerably raised, would excite the fever...

Symptoms.

Our practitioners concurred in one point respecting this complaint, that it was of an inflammatory character. Their opinions of course, were not deduced from, or confirmed by post mortem examinations, for they had no opportunity of deciding by this test; but were grounded on a close observation of the predominant symptoms, and the method of cure, which experience demonstrated to be correct... To distinguish the disease, was perhaps in no case difficult, but I find it not so easy to give an accurate detail of its symptoms. Some, which in particular cases were strongly marked, in others of a no less malignant character, were scarcely to be observed. Not unfrequently, the patient was seized with a violent head-

ach
Mo
sig
sig
here
prec
nese
the
cern
tim
Del
pul
acti
be D
from
woul
ratio
and
achi

ache, and the fever immediately ensued without farther premonition. Most usually however, the attack was preceded by the usual signs of the coming on of fevers, as languor, debility, and a slight chillinefs. Pains in several parts, particularly in the head, back, and extremities, were next felt. Oppression on the precordia, great gastric distrefs, and vomiting of bilious matter, next ensued, and occasionally were the first evidencies of the attack. Great determination to the head, was soon discernible, by the flushed countenance, violent throbbing of the temporal artery, extreme pain, and tendency to delirium. Delirium very often occurred before the solution of the fever. The pulse, was generally in the commencement, full, strong, and active. Sometimes if the disease was a little advanced, would be somewhat depressed and not so full. The skin, was extremely hot, and dry, and in the farther progress of the case, would occasionally assume a sallow complexion. Respiration was laborious at the beginning; the breath always hot and exceedingly offensive. The tunica adnata, sometimes exhibited a yellowish tinge; - the tongue, was in every case,

exceedingly foul throughout its whole extent.- usually incrusted with a dark brown fur. The bowels, in almost every case, were loaded, and constipated.- These symptoms did not always present themselves in regular succession, and as I have already remarked, some were occasionally, with difficulty, recognized. As those most invariably attendant, I might perhaps mention the foul tongue, the gastric distress, pains in the head and back, and constipated bowels.

About the third day, the disease would in some cases observe a remission, inspiring the patient and practitioner with a confidence that its march had been arrested; but a few hours only were necessary to dispel the delusion, and acquaint them with the danger of remaining inactive.

With respect to the period of termination in this fever, I can make no remarks which would be applicable to a majority of cases. Medical aid was often not solicited untill the case was a few days advanced, and then it would soon terminate fatally, or if it cured, it would be exceedingly

prod
fove
the
be c
fat
of t

I have
contain
The
action
fouer
empl
was
advan
in the
were p
meai
bear i

protracted. Some cases would be protracted for weeks, the fever often assuming a typhoid form; while others by the timely application of remedies, would sometimes be cured in two or three days, - and others again terminated fatally in this short period, owing to the extreme violence of the disease, and a neglect of a timeous resort to medicine.

Treatment.

I have remarked that this was an inflammatory affection; it certainly had a disposition to assume an inflammatory action. The leading indication therefore, was obviously to reduce arterial action to the proper standard. To attain this, nothing was found more prompt and efficient than the lancet, when employed at the proper junctures. Perhaps its employment was sometimes withheld, when it would have been exceedingly advantageous. From an apprehension of promoting a tendency in the disease to assume a typhoid character, our practitioners were perhaps sometimes deterred from an employment of the measure, particularly in an advanced stage. But we should bear in mind, not to attend so much to the stage of the disease,

as to the condition of the system. When we find our patient with a full strong pulse, hot skin, suffused countenance, and evidencies of a determination to the brain, what is better calculated to alleviate these symptoms than a copious bleeding? At the onset of the disease, I know of no danger which can result from the practice, and in its farther progress, we are called upon to resort to the remedy, for the purpose of relieving congestion. Here topical bleeding was substituted under an impression that it would tend less to debilitate, and having a more direct effect.-
The particular period at which we resorted to venesection, was during the exacerbation of the paroxysm. In the remission of the fever, the system is left in a condition, which cannot be ameliorated, by a resort to the remedy. Here it is, that we have the greatest reason to dread its debilitating agency. May not the discredit which the remedy has attained of late years, in part be ascribed, to its employment at an improper period of the disease?

One of the earliest and most formidable symptoms, demand-

ing our attention, was the extreme irritability of the stomach, which always prevailed. Untill this was allayed, little could be done for our patient. In this point of view, venesection was found highly advantageous. It also prepared the way for the exhibition of other medicines, and promoted their operation, when given. A cathartic, would long after its introduction, remain an inactive mass, - venesection being employed, its operation would immediately commence. But it is a remedy, which requires great determination in the physician, in particular cases, to decide upon its employment. It certainly is one of the most powerful of our remedial agents, when resorted to at the proper conjuncture. To determine this, the physician is to be guided by his own judgment. -

Owing to the extreme irritability of the stomach, which they would but tend to increase, emetics were not largely employed in the management of this complaint. In very mild cases, when venesection had been premised to a considerable extent, they were found of decided utility. But they

were usually supplanted by other evacuants, and first, by

Cathartics.

These were chiefly relied upon in the management of the disease, being indicated in almost every stage. In the first place, mercurial purges in particular, were exhibited. Calomel, was usually given, either alone, or in combination with other purgatives, as Jalap, Gamboge, Rhubarb, &c. I am aware of the censure which has been unsparingly bestowed upon our practitioners, for their liberal employment of mercury, in the management of febrile affections. I do not pretend to say, that this censure is wholly unmerited, as the remedy may have been abused by some, - but I am convinced that by a majority of practitioners, it was not too early or extensively employed in the management, of this disease. The bilious fever of warm climates, is admitted on all hands, to be of a more malignant character, than that which occurs in colder latitudes. The liver, is the throne of this disease; great derangement

of the functions of this organ always takes place. - Of all the weapons which compose the ample armoury of the physician, no one has been found to produce so decided an impression on the hepatic apparatus, as mercury. When there is a vitiated secretion and accumulation of bile as in the case before us, mercury is best calculated to alter and remove it; and when the opposite state of things occurs, there being a deficiency in the secretion of this fluid, mercury is the means resorted to for its promotion. This is an effect noticed by nearly all writers on the subject.

Calomel was not given with these purgatives alone. Its power was often much increased by combination with Emetic Tartar, in the proportion of about grs XV of the former, to one of the latter. When the emetic article was united in even a smaller proportion, an artificial cholera morbus, would sometimes be excited, from which the happiest effects were occasionally to be observed. This is a very disagreeable remedy to the patient, and if

aware of our intention would generally be resisted, but being efficacious, we should certainly disregard the temporary uneasiness it occasions. The emetic article was not usually combined with calomel ~~however~~ however with any other view, than simply of promoting its operation downwards —

Calomel possesses another advantage not unworthy of attention. I mean convenience of administration. From its insipidity and smallness of bulk, it can be given and retained, when almost any other article, would instantly be rejected.

After largely evacuating the alimentary canal by these means, the bowels were kept in a soluble state by the neutral salts, castor oil, and enemata. It was often found necessary to employ these previously, to aid in the operation of the other evacuants —

Arterial excitement being reduced by the vigorous employment of the foregoing measures, we next resorted to the use of <u>diaphoretics</u>. We always selected those

of
ma
to
dir
dea
dec
dir
the
the
vom
ton
to
au
by
dell
Jua
rate
guen
a gen

of the milder kind, endeavouring to solicit perspiration by the most lenient measures. Of these, the antimonials were found to be preferable, and accordingly were extensively employed. We did not direct them in such doses, as would produce any considerable degree of nausea, or excite vomiting, and if this did occur, we either discontinued them for a time, or largely diminished the dose. I know that Dr. Cullen maintains that no good effects will result from the employment of the antimonial medicines, unless considerable nausea, or vomiting takes place. But when the most glaring facts tend to controvert an opinion, we cannot conceive ourselves bound to submit to it, although coming from such respectable authority. If the antimonial preparations do good, simply by inducing nausea or exciting vomiting, why may we not substitute other articles certainly as prompt in this respect? Their good effects seemed not to be commensurate with the degree of perspiration they excited. Frequently we observed patients to be more relieved, when a gentle perspiration was induced, than when the most

profuse sweating occurred. We are constrained to believe that these medicines have a specific action, as they are eminently useful in affections, where kindred articles are of little avail. The emetic tartar, was usually prescribed in the dose of the eighth of a grain, diminishing or enlarging, as circumstances demanded; or given in the form of the Antimonial powders.

The neutral mixture, and spts. Mind. were also exhibited, — particularly the former, as being more agreeable to the patient and possessing every advantage with the latter. It would tend not only to determine to the surface, but to quiet the irritability of the stomach, to allay the excessive thirst, with which the patient was continually harassed, and to keep the bowels in a proper condition. Dovers powders, were likewise sometimes given, with decidedly beneficial results.

The dulcified spirits of nitre, was found to be exceedingly useful, given alone, or in combination with laudanum and Antimonial wine, as the particular situation of the

patient seemed to suggest.

Cold applications, were found to be highly serviceable, in the management of this complaint. Dr. Jackson supposes that their action is not to be confined simply to the abstraction of heat; he thinks that they impart an impression to the whole system, giving tone to it. Dr. Johnson maintains that they affect the functions of the liver, by what he terms "cutaneo-hepatic sympathy". Certain it is, that their good effects in this disease, were very apparent. They seemed to have some action in mitigating thirst, which was not an unimportant point, when from the extreme irritability of the stomach, every thing, that could be given, would be instantly rejected. The thirst was so urgent, that the patient would sometimes vehemently beg for a little cold water; when this was permitted to be given him, which sometimes would be by his friends, he would instantly reject

it, and be left in a more distressing condition than before. - Applying cloths wet with water, or vinegar and water, to the head, & sponging the surface with cold water, were the modes usually resorted to. Suffering the patient to immerse his hands and elbows, in vessels filled with water, would produce a tranquillizing effect, and sometimes induce sleep.

Blisters, were regarded as important remedies, in the management of this disease. In an early period of the disease, gastric irritability, as I have already remarked, was one of the most troublesome affections. A large blister, applied over the region of the stomach, was the the surest means of relieving this symptom. Blisters were also applied to the head, after the fruitless employment of cold applications. Their application to the extremities, was never neglected, when the system was observed in a sinking condition.

These means proving insufficient to conquer the disease, mercury, was given with the view of exciting ptyalism. The medicine would tend in this way, to restore the healthy functions of the liver, and by its general and revolutionary impression, supplant the fever by one of its own action. It was not deemed a safe practice to delay its exhibition too long; it was accordingly often employed, before all the preceding measures were adopted. To attain the end in view, calomel was usually given in doses of two or three grains, every hour or two, occasionally aided by frictions with mercurial ointment. Not unfrequently, after the mouth became sore, the medicine would seem to determine to the bowels; tar-coloured stools would be discharged, after which an amendment would generally ensue.

I have as yet, made no mention of tonics, or stimulants. The latter were employed only to sustain the

sinking condition of the system, and were such as are usually exhibited under similar circumstances. — There was so little remission in the fever, that the former, were rarely employed. When resorted to, Columbo, and Serpentaria, were deemed preferable to the Peruvian Bark. The latter article, would occasion too much distress of the stomach, & general inquietude, and indeed would not prove so efficacious as the other medicines. It has been almost entirely discarded by our physicians in their practice; a circumstance, perhaps in part to be imputed to the article furnished us, not being the genuine bark. —

Thus have I completed an imperfect description of this disease. For the numerous defects of this essay, I have only to plead in palliation, that it was prepared, under the most embarassing circumstances. — —

December 1823.